III. Meeting Minutes

5-Year HCP Review ~ Report to Services
Meeting Minutes

Attending:

Richard Bigley - DNR
Angela Cahill - DNR
Craig Hansen - FWS
Peter Harrison - DNR
Steve Kellar - NOAA - Fisheries
Simon Kihia - DNR
Ray Lasmanis - DNR
Bruce Livingston - DNR
Matt Longenbaugh - NOAA - Fisheries
Teodora Minkova - DNR
Gretchen Nicholas - DNR
Mark Ostwald - FWS
Tami Riepe - DNR
William (Bill) Vogel - FWS

Meeting began ~9:15 AM

Gretchen and Tami began the meeting by giving a brief overview of the history and purpose of this review. They noted that the Habitat Conservation Plan (HCP) calls for a 5-year review of our progress. DNR also wanted to take this opportunity to celebrate our success. Their comments included:

- This success is thanks to all of our efforts – DNR, the Services, and other agencies and individuals involved in implementing and monitoring the HCP
- Over the past 7 years, DNR has spent approximately $21 million on HCP-related activities
- These activities have included things like snag creation harvest, drilling holes in trees for squirrels, and other experiments, which are helping lead DNR down a new road
- In this report, we want to review our progress on HCP implementation, as well as providing updates on conservation strategies outlined in the HCP
- We are also looking for feedback on what we are doing well and what we could do better
- When we have finished our slide show, we want to have a discussion with the Services about our successes, challenges, and future direction

Objectives and Introduction This discussion correlates to slides 1-3 in the presentation.

Bruce then provided a little more history and an explanation of what we planned to do in this review. He noted that about 8 months ago, DNR staff began an internal discussion

about the 5-year comprehensive review. Having never completed such a review before, we had questions such as: "What format should the review take?" and "What information should be included?". To help answer these questions, we met with the Services and asked what they wanted us to provide. The Services gave us a list of 22 questions or topics they wanted us to provide updates on. Today's slide show is our attempt to answer these questions, grouped loosely by subject.

Gretchen noted we need to look at where we're coming from, as well as where we are going.

Bruce pointed out that we also had underlying documents and background reports on a CD, which was given to staff from the Services.

Tami noted that we would give status updates, then wanted to have an interaction between the agencies regarding what our priorities should be for the next 5 years. We also planned to discuss our successes and challenges, followed by input from everyone regarding expectations

Topics This discussion correlates to slides 4-6 in the presentation.

We then began the slide show. Bruce was the first presenter. He began by quickly noting the topics that we would be covering, which were: Summary of Land Transactions; Summary of Timber Management Activities; Natural Areas Contributions; Implementation Planning; OESF; Northern Spotted Owls; Marbled Murrelets; Other Species; Monitoring and Research; Funding for Monitoring and Research; Implementation, Effectiveness, and Validation Monitoring; and Strengthening HCP Implementation. For each broad topic, we are trying to answer one or more questions from the Services. Under Timber Management Activities, Bruce noted that non-timber activities are not tracked in the same system as timber activities (and there is really no new information that is not contained in the HCP Annual Report), so this topic will not really be covered. The annual reports given to the Services cover non-timber activities in more detail.

Land Transactions was the first broad topic. This discussion correlates to slides 7-14 in the presentation.

Bruce noted that DNR used to just give the Services hard copy maps showing land transactions, but we are now trying to summarize these transactions in a more useful format. He showed two maps showing lands owned by DNR and covered by the HCP. The first showed baseline data from 1997. The second showed all acquisitions and dispositions from 1998 through 2003. Bruce pointed out several of the largest land transactions, which include:

- A Trust Land Transfer that transferred ownership in the Pilchuck Block (N Puget Planning Unit) to the Grieder Ridge and Morning Star Natural Resource Conservation Areas

- Champion 3 Exchange, which disposed of land in East Lewis County (near Mayfield Lake) in exchange for acquired land near Enumclaw
- Near Ft. Lewis, we exchanged land with Weyerhauser, acquiring land in Elochoman in the Columbia Planning Unit (PU)

Bruce next showed maps of NRF and dispersal lands. The first map was baseline data for 1997, showing the NRF, dispersal, and NRFP lands managed by DNR then. The second map was NRF lands in 2003, showing any acquisitions that took place between 1997 and 2003.

Gretchen stated that an acquisition is soon to be completed in the Klickitat, and that we are hoping to block up (own) all of the currently scattered or checkerboard land in the north portion of the Klickitat PU through land transfers.

Bruce next showed a map of dispersal lands in 2003, showing any acquisitions or dispositions that happened between 1997 and 2003. He noted that there was a bit more fluctuation here than was seen in NRF lands. Bruce pointed out the location of the Champion Exchange in the South Puget PU.

It was noted that on this map the land in the north end of the Klickitat looked more like a block than a checkerboard (in terms of ownership). Gretchen said this was wishful thinking.

Timber Management Activities was the next major topic. This discussion correlates to slides 15-21 in the presentation.

For this section, Bruce showed an adaptation of the table on p. IV.211 of the HCP. This table had the same information as the one in the HCP (including projected 10-year numbers for various forest management activities on HCP lands), as well as columns showing actual numbers for these activities in the first 5 years of the HCP in east-side and west side Planning Units and the OESF. This table gives a good picture of where we are in terms of these activities.

Bruce discussed several topics of particular interest. The first was clearcut harvest. For this activity, we are below our projected 10-year numbers on the west-side (that is, if you doubled west side 5-year numbers, they would not be within the projected 10 year range). However, on the east-side and OESF, clearcut activities are more or less right on track.

To create this table, we had to combine some data. Our system uses different categories for tracking than those listed in the HCP table. For example, to get the commercial thinning data, we combined the data for late rotation thinning, smallwood thinning, and variable density thinning.

Craig asked whether the 45,788 acres (for clearcut in west-side PUs) includes removal of seed trees if they were left with a harvest that happened before the HCP began, then removed after the HCP was implemented.

Bruce said the answer was yes; this table includes data for all activities that took place on HCP lands from 1997 to 2003. If both activities took place after the HCP was implemented, they would both be counted (the first as seed tree, the second as a seed tree removal, which would be classified as a clearcut).

This led to the question if you looked only at fully stocked lands that were clearcut in this timeframe, would your numbers change significantly.

Bruce answered that the numbers would change some, but not significantly – there were some activities that were double counted, but not many.

For commercial thinning, our numbers are in the ballpark on the east-side and the west-side, but are pretty low in the OESF.

Bill noted that we need to be careful judging "success" relative to these 10-year projections, which weren't based on the data and knowledge that we now have.

Bruce agreed that this table is good for comparison purposes, but not for judging success. The annual reports, which break down the categories more, have better data and serve as a more useful indicator of success.

Precommercial thinning numbers are on target in the east side, but on the high end in the OESF. In the west side, our numbers may be a little light; this is partly due to budget allocations.

Tami noted that the numbers for ground and aerial herbicide applications are interesting. We are doing more ground application than we predicted; this is good, since we can better target specific species with ground applications.

Mark asked if ground applications are done by driving by and spraying from the road.

Gretchen answered no. We may do some spraying from the road, but we mostly do things like using backpack sprayers or applying herbicide directly to the base of stumps – these are less expensive and better.

Tami noted that with leave tree designs, we often can't do aerial spraying.

Bill noted that our projections are generally based on looking back at the past several years, then projecting ahead based on past numbers. We didn't start applying herbicide until 1992, so our projected numbers would be based on limited experience.

Craig asked why root-rot control wasn't done – was it too expensive and/or too much effort?

Bruce responded that it may be because our P & T system doesn't track root-rot control; this activity is actually part of a silvicultural activity (removing infected trees), so it is not tracked separately as root-rot control. In other words, this activity is done, but our system is not set up to track it separately.

Mark asked what age trees are typically fertilized.

Bruce answered that we usually fertilize trees in the 35-45 year old range so that there is a better chance for a response, but we have also fertilized older stands, such as one near Enumclaw.

Gretchen noted that we also do some sludge spraying that we should be tracking as fertilization. Research has been done on the safety and effectiveness of sludge (biosolids). At Pack Forest, animals grazing on sludge-sprayed vegetation have been tested for heavy metals or other dangerous substances; no impact has been seen on these animals. Gretchen would like to see us do more sludge spraying, partly as a social thing to help this practice gain wider acceptance. King County also monitors their biosolid applications, and has found that metals get bound up into organics and don't spread into the soil or organisms. Biosolids can also slow wind and soil erosion, which farmers like.

Craig asked about natural seeding and planting as regeneration techniques and why the numbers looked the way they did.

Gretchen noted that we have geneticists who make sure that we use plants from the right seed zone and that we plant a diversity of plants. On the west-side, we mostly use the planting technique, because seeding-in doesn't work well; when we try to allow natural seeding, we get only patches of natural revegetation. We generally use whatever technique will work best for a particular area, as we want to get the stand established quickly for economic reasons.

We used to practice "Frugal Forestry" which looked really bad from a silvicultural perspective, but from a wildlife perspective looked okay. This practice is no longer used.

Bruce pointed out that scarification is used to help natural revegetation, primarily on the east side. Scarification is also sometimes done prior to planting.

Natural Areas Contributions was the next major topic. This discussion correlates to slides 22-32 in the presentation.

Natural areas include both Natural Area Preserves (NAPs) and Natural Resource Conservation Areas (NRCAs). Bruce noted that NAPs and NRCAs are never disposed of; any language in the slides saying dispositions is simply there for consistency. The statewide system of natural areas was created by the legislature to protect native ecosystems, rare plant and animal species, and unique natural features.

Bruce began by showing a map of NAPs and NRCAs that existed in 1997. He pointed out the Clearwater corridor in the OESF. He next showed a graphic showing the growth of NAP managed lands. In 1997, natural areas covered 64,552 acres within the area covered by the HCP and 73,849 acres total. By 2003, natural areas protected an additional 16,718 acres in the area covered by the HCP for a total of 81,270 acres within the HCP. For the entire state, natural areas covered 117,476 acres in 2003.

Bruce then showed a map of all NAP and NRCA acquisitions from 1998 through 2003. Mark asked whether this map includes Section 6 money acquisitions. The response was that no Section 6 lands have been added during this first 5-year period.

From 1998 to 2003, 6 new NAPs or NRCAs were added within the HCP range, and 2 were added outside the range of the northern spotted owl, including the more than 24,000 acre Loomis NRCA. Other large acquisitions include the Monte Cristo NAP, Morning Star NRCA, Mt. Si, West Tiger Mountain, Trout Lake, and Greider Ridge NRCA.

Natural areas protect habitat for: 12 species listed as Threatened or Endangered under the Endangered Species Act, 10 of which are found on NAPs or NRCAs within the range of the HCP; 2 federal Candidate species (Oregon spotted frog, found in the Trout Lake NAP and Taylor's checkerspot butterfly, found in the Bald Hill NAP); and other sensitive species.

Bruce then showed a table showing Threatened and Endangered species found on NAPs and NRCAs within the area covered by the HCP, and where those species are found. He pointed out that it shows species that we don't hear much about, e.g. golden paintbrush and swamp sandwort.

Mark asked whether Rocky Prairie NAP is within the HCP. The answer was yes.

Bruce then noted that NAPs and NRCAs also provide habitat for grizzly bears and Canada lynx. The North Cascades Grizzly Bear Recovery Zone covers 3 NRCAs, which are within the HCP, but the presence of bears has not been confirmed. The Loomis NRCA, meanwhile, provides habitat for both grizzly bear and lynx, but is outside of the area covered by the HCP.

Mature and late seral forests, which provide habitat for both northern spotted owls and marbled murrelets, dominate 19 natural areas and almost 55,000 acres of land.

This section ended with a closing thought from Scott Pearson, WA DNR: "Taken together, this information demonstrates the important contribution of DNR's natural areas to the protection of biodiversity and to the Department's HCP obligations."

Implementation Planning was our next major topic, with Bruce covering both the current approach and the differences between landscape planning and implementation planning. This discussion correlates to slides 33-40 in the presentation.

An implementation plan is designed to answer three questions about forest management: (1) What type of activities can we implement across a landscape?; (2) Where in the landscape can we implement these activities (e.g. harvest, recreation, land transactions)?; and (3) What will be the combined effects of implementing these activities over time across the landscape?

Sustainable Forestry Implementation Planning is an integrated process. It looks at different types of plans (asset management, landscape, recreation, and implementation) and puts them together to create an integrated plan. No single plan contains all the pieces needed for creating a comprehensive plan, but taken together they create a new vision of integrated planning.

The purpose of implementation plans is to implement our department's strategic goals and policies (HCP, Forest Resources Plan, Board of Natural Resources, etc.). Modeling helps us to determine whether we are meeting these habitat and revenue goals described in our policies.

Gretchen noted that we are changing our thinking from focusing on specific timber harvests to more overarching goals. We are looking more at how all our activities impact the land. It is becoming more important for us to focus on goals and achieving outcomes, rather than specific step-by-step processes.

Bruce then discussed the key differences between sustainable forestry implementation plans and landscape plans. Scale is one key difference – landscape planning looked at 107 plans, while implementation planning is only looking at 6 plans on the west side. Landscape planning is more of a bottom up process to set objectives. Implementation planning, on the other hand, uses more of a top down process to set objectives, but a bottom up approach to set strategies.

Tami noted that implementation planning is a complicated process. We can set up a separate meeting with the Services and Joanne Wearley (DNR's person responsible for this program) to discuss this topic in more depth.

OESF was the next major topic. This discussion correlates to slides 41-46 in the presentation.

Bruce noted that Richard would be answering a question about research in the OESF later in the presentation. This section would be devoted to answering a question about Road Maintenance and Abandonment Plans (RMAPs).

In 2001, the Forest and Fish legislation dictated that within 5 years of rule passage (or by December 31, 2005) all landowners must have RMAPs for their land. In anticipation of this new rule, the OESF began working on their RMAPs in 2000. They planned to analyze approximately 20 percent of their forest roads annually - with a target of 5 years to completion - and are on target for completion in 2005. Of 11 landscape planning units in the OESF, 9 plans have been submitted and approved. There are about 1,700 miles of

road in the OESF, and 1,286 of these are already covered by RMAPs; the other 437 will be covered when the final 2 RMAPs are submitted and approved.

This same requirement applies to all HCP lands. Annual reports cover the progress in other areas; we focused on the OESF here because of a specific question about it.

DNR has not prepared a comprehensive road management plan as required in the HCP. We have, however, substituted the Forest and Fish (Forest Practices) required Road Maintenance and Abandonment Plans. Craig asked whether DNR planned to continue to utilize this system rather than establish a comprehensive road strategy that still must meet the Forest and Fish requirements (RMAPs). The Services thought that continuing to follow the RMAP requirements would satisfy the HCP comprehensive road plan requirement. We should exchange correspondence to make that official.

Tami stated that roads are partially covered, and are connected to areas that are covered by the HCP, like grizzly habitat. Our annual reports also show miles of roads that are constructed, decommissioned, abandoned, etc. It was also noted that the roads schedule is on a calendar year, not a fiscal year, because Forest Practices requires annual reports for road schedules to follow a calendar year. Having these reports as a part of the HCP annual report was discussed and agreed to two years ago.

Northern Spotted Owl was the next major subject. This discussion correlates to slides 48-64 in the presentation.

This topic was covered by Teodora and Tami. Teodora began by noting that she would be discussing owl habitat evaluations in management areas (while discussing the monitoring component of this later in the presentation), comparing projected and actual NRF and dispersal habitat amounts, and discussing the definition of owl nesting habitat. Tami would be covering the proposed Klickitat owl amendment.

Teodora began with a discussion of owl habitat evaluation, noting that the objective was to account for the amount and distribution of NRF and dispersal habitat in west-side planning units. The main method used was a query of DNR's Forest Resource Inventory database (FRIS2, an updated version of FRIS1). For approximately 15% of the areas, no FRIS data was available, so LULC (basically age-class) database information was used. Both systems were queried for the threshold values used in the HCP definitions (3 for dispersal, 6 for NRF). To determine the habitat acreage per WAU, the FRIS layer was intersected with GIS layers for owl management, land transactions, WAU_97, and natural areas.

Teodora then showed maps of NRF and dispersal areas in the Columbia, South Puget, and North Puget Planning Units. These maps include federal lands, because the HCP dictates that when NRF and dispersal lands are above 50% target we also look at habitat on federal lands to determine how much to manage in the DNR lands. Natural areas within NRF and dispersal lands are also included in the threshold account.

The habitat evaluation findings were summarized as: 8 of 66 WAU that contain designated NRF areas meet the requirement for 50% NRF habitat; 13 of 42 WAU that contain designated dispersal areas meet the requirement for 50% dispersal habitat.

Mark noted that he was surprised that so many met the NRF requirement and so few met the dispersal requirement. The dispersal goal is easy to reach (RD 50), so he wonders why more WAUs are not at this goal.

Tami agreed that this data is surprising, and noted that region biologists will soon begin ground-truthing it, using a systematic approach. It is likely that some habitat is not in the system and some areas are wrongly identified as habitat, when they really aren't. We need to use local knowledge to help address problems with habitat.

Teodora then showed a graph of NRF habitat in west-side planning units, showing designated, estimated, and threshold amounts for various years. In 1996, designated land covered about 163,000 acres; based on this the 100-year threshold was set at 81,500 acres. By 1997, designated land was up to about 166,000 acres. If we always aim for a threshold that's 50% of designated, the threshold number will continually change. If, however, we aim for the number dictated by the pre-set 100-year threshold, we may end up with more or less than 50% of the actual number, as the threshold won't change. We need to further discuss this issue and decide what to do.

In 1996, estimated suitable habitat was defined using two methods: (1) multisource method (WDFW mapping, satellite photos, Forest Service inventory, etc. are combined using GIS technology) and (2) age class method based on 1996 DNR inventory. The current inventory (FRIS) is more accurate, but was not designed for owl habitat sampling. This system's sample design leads to an underestimate of habitat acres.

The current habitat definitions are also problematic. There are two main problems with the numbers: the inadequacy of the current inventory database and dysfunctional definitions.

Teodora next showed a graph of dispersal habitat in west-side planning units, showing designated, estimated, and threshold amounts for various years. Dispersal habitat amounts are pretty close to thresholds in terms of actual acreage. However, the number of compliant WAUs is not so good. Since the dispersal habitat is designated in large continuous blocks, it is easier to reach the requirement for amount rather than for distribution.

Teodora next covered the status of developing a better definition of owl nesting habitat at the stand level. There are several problems with this process, including:

(1) some variables (e.g. down woody debris (DWD) as a % of ground cover; canopy cover as a percentage) can't be measured in the ways described in the HCP;
(2) some important parameters aren't included in definition (e.g. no upper threshold for density; some sites are so densely vegetated they aren't functional habitat);

(3) some variables differ substantially from those measured around known successful owl sites (e.g. in the Klickitat, successful sites have small numbers of DWD and snags; some areas have more trees/acre than the definition); and
(4) requirements to meet threshold values in all variables mean very few stands qualify for habitat (e.g. a NRF site could meet 5 requirements, but be disqualified as habitat for missing on the 6th threshold)

These problems led DNR scientists to the idea of creating a multivariate model using all parameters in a weighted equation, which would create a composite value to use.

Some progress has been made on creating a better habitat definition. This includes:

(1) Translating 2 habitat metrics to a format more compatible with its inventory database
    a. using Curtis relative density (RD) of 50 instead of 70% canopy closure
    b. using 2400 ft^3 down woody debris instead of 5% ground cover of DWD
(2) Exploring the idea of organizing all stakeholders (represented by scientists) to propose a better definition for Forest Practices
(3) DNR wildlife biologists and silviculturists performed 2 studies to try to address problems

One study was performed in 2002 and titled *NRF Habitat Delineation in Southwest Region*. This study addressed the problem that few existing owl sites were identified by FRIS1 to exist in NRF habitat. The researchers examined methods to improve methodology of habitat definition, preferring an integrated method using aerial photos and FRIS plot data. They noted the need to refine the NRF habitat definition, particularly the threshold of "trees per acre". Finally, they noted the possibility of identifying habitat criteria as primary and secondary determinants of suitable habitat.

The other study was performed in 2003 and titled *Structure and Composition of Spotted Owl Nesting, Roosting, and Foraging Habitat in the Klickitat District*. This study addressed the problem that NRF habitat (as defined by the HCP) was rare despite a history of successful owl reproduction. The researchers performed detailed evaluations (field, aerial, and FRIS) of stand characteristics around successful sites. They found that high requirements for DWD and snags were the main reason for sites not meeting the definition. In response, the authors proposed creating two sets of values "minimum acceptable levels" and "desired future conditions" as well as a multivariate habitat model.

Tami then discussed the proposed amendment for spotted owls in the Klickitat Planning Unit. One problem in the Klickitat is that many areas identified as NRF are not suited to growing that type of habitat.

Mark noted several problems with NRF and dispersal habitat, particularly in the Klickitat. One is that a variety of vegetation types (e.g. subalpine) are not capable of growing tall enough to reach NRF heights – but classifications of habitat were forced to follow the HCP definition. Forest health is also an issue in some areas. Finally, some areas should be protected as dispersal, but aren't.

Bill and Craig commented that the amended approach for the Klickitat is basically the same approach that they proposed for the east-side when the HCP was being written. At the time, DNR was opposed to the suggestion, and it was not followed. DNR has now come full circle, and is using this approach.

We are in the process of amending the concurrence letter on the Klickitat owl plan. DNR was looking at things on a sale-by-sale basis, but is now looking at the bigger picture, which is better for the owls.

In 2001, staff from DNR and the Services took field trips, and spent lots of time at the Waterline Sale. This provoked a desire to move to management based on site capabilities. In 2002, the amendment was started, and it has now gone through all review processes, including SEPA. We hope to implement the amendment in June.

This project will need extensive monitoring. Teodora will make this monitoring a major project, as will Bruce's team. We want to monitor and adapt to make this a successful amendment and project.

Marbled Murrelets were the next major topic. This discussion correlates to slides 65-73 in the presentation.

Peter discussed the interim and long-term conservation strategies as well as survey results and the long-term strategy planning team. Peter noted that the status of the long-term strategy is a loaded question, and that more details are available in his report (on the CD given to the Services).

Peter showed a table summarizing the status of interim and long-term conservation strategies. Much work has been done to date on marbled murrelets, and there is pressure to complete this work. Murrelet studies began in 1994 (studying habitat relationships in the OESF), and since then over $5 million dollars and a great deal of time has been spent on this effort.

Craig noted that Sustainable Harvest calculations could lead to more activity and harvest. He asked if the North Puget PU has not completed inventories (expected by 2008), will it tie up lots of stands and make them unavailable for harvest? If so, why not move faster there?

Peter noted that there is pressure to move faster on the surveys, but North Puget PU models didn't show expected outcomes based on results from other sites. These unexpected results caused us to step back and reconsider our methods for NPPU.

All dates given on the table for North Puget and South Puget PU are estimates. Other PUs are farther along, and it is anticipated they will complete their long-term conservation strategies in January 2005.

OESF has about 12,000 acres of lower quality habitat not yet surveyed. However, these are usually adjacent to higher quality habitat. The buffers on the higher quality habitat end up covering both.

Peter next showed a table with inventory survey results by planning unit. The table gives percentages of occupied, presence, and no detection land for surveyed reclassified habitat acres. These numbers are for survey sites, not contiguous habitat or blocks of acres. However, the buffers around each site collectively cover a great deal of land. For instance, in the OESF, there is 55% occupancy of survey sites. When the 0.5 miles buffer is applied to each of these sites, the buffers cover about 90-95% of reclassified habitat (not total OESF land). This ends up covering some unoccupied habitat, along with the occupied, and locks up all of this land until the final plan is in place.

For reclassified plus land, only about 100 acres have been surveyed. To date, no occupancy has been found.

Peter then discussed the North Puget PU, where initial research results were unexpected, based on observations about murrelet occupancy and stand structure in other areas. This meant we had to deviate and come up with alternate strategies for this area. For instance, using larger tree diameters in models captured more habitat. We are also using local knowledge to identify nesting platforms and placing survey areas accordingly.

In the past, if habitat was reclassified, we would survey an entire polygon. For instance, protocol for a 60-acre polygon requires surveying 4 sites within the polygon for 2 years. So, if an area had 4 platforms, we had to continuously check the entire area, even if murrelets were found in only one section. This meant that effort was scattered over a larger area than needed.

We are also finding that reclassified habitat is not buying us what we want to buy. In the Straits PU, for example, we had 4 pieces of reclassified habitat. After thorough surveys showed there was no habitat in these areas, we were able to release them for sale.

Our new strategy involves better identification of habitat (defined by the HCP as 2 platforms/acre in a 5 acre plot). Once we determine what is or isn't habitat, we survey just the section that is considered habitat, and release the rest of the polygon. This approach, which includes field verifications, allows for better results and more efficient use of our time. We are also surveying sections of sites that are less than 5 acres and 16 tiny pockets of habitat. We estimate that surveying all reclassified habitat in NPPU would take over 10 years. There are also a number of logistical and safety issues that prevent surveying to protocol in this planning unit.

To date, no murrelet survey work has been initiated in the South Puget PU. This spring, we want to begin identifying habitat stands and doing a preliminary assessment. We will probably use the modified approach adopted in the North Puget PU. Peter was asked if we expected to find any murrelet habitat here. He answered that we expect to find a little, but not much.

Peter next discussed the long-term murrelet strategy planning team, which was created in fall 2003 with representatives from DNR, USFWS, and WDFW. The team quickly identified the need for a summit to allow murrelet experts to give their input. At this summit, we formed a Scientific Advisory Group with members from NW Research, OSU, and the Services. We hope to finish SEPA and NEPA review and the full process by 2005. Kim Nelson and Paul Pfeiffer are on this team, and looking at models and other systems to provide good data.

Mark asked about marbled murrelets in the BO (Biological Opinion). Gretchen responded that we may reopen consultation and issue a second permit. This was not an anticipated move and has raised concerns among our attorneys. This is something we need to discuss more.

Bill also noted that adaptive management is different from an amendment. An amendment is needed when there are changes in the level of take or biological changes. The Services can review the BO without impacting DNR.

Other Species was the next major topic. This discussion correlates to slides 74-76 in the presentation.

Tami provided us with brief updates on the grizzly bear and Canada lynx.

For the grizzly bear, Scott Fisher (the Northeast Region biologist) is active on the Technical Committee; DNR has less participation on the Oversight Committee. We have a draft plan for grizzlies, but it was put on the back burner. We'd like to begin re-work on this plan in 2005, and anticipate implementing it in 2006.

Tami noted that the Canada lynx is found outside the HCP, so the plan is for the Loomis. The original plan was created in 1996; a 5-year update was due in 2001. However, in 2000, the lynx became a federally listed species. At that time, the Services asked us to add 7 federal conditions to the plan. The draft plan is due this month, with implementation anticipated in October 2004. The request to add the lynx to the area covered by the HCP is still on and is being completed.

Monitoring and Research was the next major topic. This discussion correlates to slides 77-104 in the presentation.

Richard discussed research relating to HCP priorities, status of OESF integration of conservation and production, status of Type 5 stream research, and implementation of riparian management.

Richard began by noting some accomplishments of the HCP research program. Perhaps the biggest is establishing a research program in an agency without researchers and with no institutional requirement for research. Another accomplishment is the involvement of outside scientific advisory groups. A third accomplishment is that people now expect

results and adaptive management. We're working on this for spotted owls and marbled murrelets; small stream conservation is coming; we then need to anticipate smaller things and refinements – like questions about appropriate numbers of leave trees in wind throw areas. A final achievement is the establishment of a cooperator network – getting people to buy-in to our priorities and work together is a big part of Richard's job.

Richard then noted three broad objectives of the research program: completing conservation strategies; increasing the effectiveness of the strategies; and increasing management options for HCP lands. We then need to translate these objectives to research priorities.

Richard showed a graph of research funding allocations for the first 5 years of the HCP, noting that 92% of research money went to marbled murrelets and 8% to riparian and spotted owls. Murrelets are a major hole into which most money goes; most of this cost was for field surveys. Relative costs are letting marbled murrelets dominate funding, which means other studies don't happen.

Research is prioritized based on the ability to provide information – Priority 1 is information that's a necessary part of a conservation strategy; Priority 2 is information needed to improve conservation strategies; Priority 3 is information to improve general understanding of topics addressed by the HCP. The department is committed to funding research and will request $1 million/year until the Priority 1 research is done.

Richard then quickly reviewed summaries of research on each of several topics, showing priority level, subject, projects, and progress. For marbled murrelets, the Priority 1 subject "Which areas and habitat conditions support nesting murrelets?" has used 80-90% of our resources, which shows our limited and rudimentary understanding of murrelet ecology.

Mark inquired how much money is being spent on the question "Can murrelets colonize unoccupied suitable habitat?". Richard answered that habitat issues are in transition – we're just starting on all other murrelet-related questions (except the nesting question). We do know, based on telemetry, that Washington has 40 murrelet nests.

The second major murrelet topic being studied is predation risk. This is a multi-year project with a GIS model showing color-coded areas with perceived predation risks. We know that the number one cause of failed nests is predation.

Another murrelet-related project is studying population ecology. This month, murrelets will be on the water wearing radio transmitters. This project will address many priority 1 murrelet questions.

Finally, Scott Horton is looking at murrelet surveys and interpreting what the data really mean.

Due to funding and adaptive management priorities, relatively little spotted owl research is going on. Work in the Klickitat is trying to reduce the risk of catastrophic habitat loss. In terms of stand level definition work, there are no large-scale, integrated projects, just small-scale pieces. One such project is working on alternative silvicultural techniques to accelerate the development of functional NRF habitat. A research project at the Airport Sale site is testing four different PCT regimes; this is based on an idea Richard supported which is catching on.

Riparian research is where the majority of non-murrelet effort has gone. At the end of January, we had a review of Type 5 stream processes and management. There's been some agency work on managing wind buffers and on modeling, including economics and logistics of managing RMZs. In the OESF, there are many modeling experiments, which take existing models of dynamic riparian habitat, fish response, habitat enhancement, etc. and feed into support for riparian validation monitoring.

Richard next reported on the status of integrating conservation and production in the OESF. This included showing a graphic highlighting several research projects and showing their relationships. The OESF has a multi-faceted objective to answer questions about conservation strategy efficiency and meeting goals of forestry and conservation combined. One major success is the implementation of projects that are closely integrated and provide insight at multiple scales – including the landscape scale needed to implement the unzoned strategy.

In the Clallam Block, we've spent 2 years looking at the integration of operational and economic constraints with variable density thinning. This process involves looking at things like age at which we initiated effort, DWD, and site productivity. Together, this information provides a broad picture of the constraints and opportunities in implementing the unzoned approach.

For marbled murrelets in the OESF, we are studying where activity centers are; creating a predation model of susceptibility; and studying the demographics of how the birds interface with the landscape, which helps us validate predictions on habitat use.

For riparian research in the OESF, we have a landscape (Clearwater) with a wealth of background data. With an inventory, we'll also have GIS data on habitat

Overall, the OESF is doing so-so. We're not meeting all our goals well enough, but this is partly due to surprising implementation impediments and a lofty goal. In terms of this lofty goal (integrating production and conservation) we've had some successes and lots of experiments and case studies. These are, however, only a small part of the OESF, and we still need to work on implementation.

Tami noted that we need to improve OESF research. Richard added that we also need programmatic clarity – what we can and can't do – but this is not for lack of trying. Tami then stated that we're considering moving OESF to its own program with a separate

budget. Richard agreed that we need programmatic level input to help create a good path for OESF research.

Mark asked whether more landscape planning needs to be done here or if it is key.

Tami answered that landscape planning is a label in transition. In terms of research, we don't do landscape planning, but OESF is required to do landscape planning under the HCP. We're doing some work on landscape planning, but holding back some until the landscape planning process is better re-defined.

Steve inquired how much wood is coming off the forest and if things are improving (in terms of landslides, road futures, etc.).

The answer was that we are not operating in areas with historic landslides, etc. and changes are occurring. The GIS age-class model shows the legacy of the '70s and '80s. We can't expect instantaneous regrowth, but are now keeping forests intact and adding complexity. Things are more complex than people realized.

We were asked to keep the Services in the loop as we make changes. Bruce noted that later in the presentation we'd get there and show how we're starting to monitor where we never did before (last year was the first implementation monitoring in OESF) and making other changes.

Richard next discussed Type 5 streams, which are those streams less than 2 feet wide. Type 5 streams account for less than half the stream miles in areas covered by the HCP. According to the HCP, research will study the effects of forest management on Type 5 waters, and a long-term conservation strategy will be developed for these areas. The HCP punted and covered seeps and small wetlands under Type 5 streams until we knew what to do with them. Richard showed us a graphic of the Rotten Tags study site. The stream temperature varies with the various treatments, with the control maintaining low temperatures.

On small stream buffer experimentation, we've been cooperating with USFS and UW for a number of years. Pre-treatments occurred for several years. We're now moving into post-treatment.

Much of the Type 5 research is descriptive. We don't know much yet, so we have to figure out what stream functions to protect and options for protection; how timber harvest impacts various functions; and what the options for protecting functions are within the HCP riparian management strategy.

To protect small streams, we try to prioritize leave trees around Type 5 streams. If we retain leave trees around a Type 5, we need a big buffer or all the trees fall. Bruce noted that in our monitoring we've found the trees stand in some cases – we need more monitoring to learn more. The riparian strategy also has restrictions, e.g. no equipment and avoiding gorges, confluences, etc.

Bruce noted that the implementation monitoring team last year found some Type 5 streams are protected, while some are not. Success (in terms of trees left standing) varies with location, wind amounts, and other factors.

Matt asked if we're collecting information on, for example, wind buffers.

Bruce responded that we're collecting anecdotal information (e.g. how much blowdown) on different sizes of trees within a stand. We need to find a way to get this information into a database where we can further use and study it.

For buffer configurations, we're setting up experimental design and treatments, with cooperators working on different aspects of the question. Last month, an MS project at UW was defended. It was loosely geological and pointed out the concept of perennial initiation points. In basalt areas, things are fairly consistent: a large seep forms, getting smaller as things get drier, but the perennial initiation point stays the same. In sandstone, there is no big seep area, and the perennial initiation point migrates downstream as it dries up. Many other investigations are studying the effects of buffers on a variety of factors and organisms.

Riparian management procedures were Richard's final topic. We defined a desired treatment configuration to shorten the time to reach a healthier forest. In March 2004 a second draft was reviewed, and a meeting with the tribes and Matt is set for Friday. Implementation is anticipated in November 2004.

Richard also showed models from the FES system (a USFS product), which looked at estimated crown depth for different age classes and where we might expect mortality.

Mark asked if Jason Cross's model is available. Richard responded yes, it might even be online.

Funding for Monitoring and Research was the next major topic. This discussion correlates to slides 105-113 in the presentation.

Simon presented "DNR Funding 101", covering funding sources, budget allocations, and expenditures. He noted that DNR has spent a substantial amount of money on the HCP. There are two pieces to HCP money: the division program and region staff. We can't track region expenditures, but we can track program funding.

The public lands managed by DNR came through the 1889 Enabling Act. Public lands generate revenue for several trusts. Over the years, the office of the Public Lands Commissioner has stayed the same.

For every $1 DNR generates, $0.25 goes back to DNR to manage lands, roads, etc. and pay for things like HCP staff. Since this is the only source of DNR revenue, our funding

fluctuates with the economy - in years with good timber sales, we get more money; in times of poor markets, we get less money.

Each biennium, DNR prepares a budget and gives it to the legislature to show them what we think we will bring in and spend. DNR doesn't get money directly from the legislature, they just approve how we spend the money we bring in from timber sales. The legislature wants to make sure the money goes to the right places.

Simon then showed a series of four pie charts and tables showing HCP-related expenditures. The first two showed HCP monitoring and research expenditures for 1997-2003 and projected numbers for 2003-2005. The second two showed HCP program expenditures for 1997-2003 and projected figures for 2003-2005.

Simon noted that on the chart for 1997-2003 HCP monitoring and research expenditures, the section labeled "MM Research" was the same as the 92% figure in Richard's earlier pie chart. In other words, from '97 to '03, marbled murrelet research was 63% of HCP monitoring and research expenditures; all other research was 15% of the total. Of that 78% spent on research, 92% of the funds went to marbled murrelet research.

The "HCP Implementation Monitoring" money for 1997-2003 was only spent in 2002 and the first half of 2003. No money was spent on implementation monitoring before then because, up until 2001, this was a region responsibility.

Mark asked if salaries come out of this pot of money. Tami and Bruce answered that yes, this money includes all resources - salaries, equipment, etc.

Under Washington state general funds, Forest Practices does monitoring for compliance. This expenditure doesn't show up in our funding charts, as it covers regulatory monitoring statewide, not just on lands covered by the HCP.

In the current biennium, 30% of monitoring and research funding goes to other HCP research. The amount allocated in 2003-2005 (for other HCP research) is nearly as much as in the previous three biennia combined. This shows that as marbled murrelet research efforts decrease, that pot of money shifts to other programs, and all other areas get more money. In this biennium, $1.8 million of the $3.5 million monitoring and research funding goes to research.

For the program expenditure charts and tables, we've brought in administrative and HCP consultation figures. HCP consultation is scientific support for on-the-ground implementation of the HCP (biologists, geologists, hydrologists, and others). The success of HCP implementation depends on this support.

From 1997 to 2003, $16 million dollars was spent on the HCP program (covering monitoring, research, consultation, and administration). Many of these costs would've existed even without the HCP, though the HCP may have led to higher costs.

In the current biennium, HCP consultation is an important part of expenditures ($1.5 million, compared to $7.2 million from '97-'03). We are also spending more money on monitoring. This will give us more data and tell us what we need to focus on (e.g. unstable slopes, sedimentation). We continue to find gaps where we need more focus (e.g. a person to be OESF coordinator and act as an information clearinghouse regarding research done there). Having more support for monitoring will be quite beneficial. This new emphasis on monitoring can be seen in expenditures – we allocated $1.7 million for monitoring in 2003-2005, the same amount spent in the previous six years combined.

Despite big budget cuts across the board at DNR in this biennium, the HCP program actually got increased funding. This shows the importance of our program. We have increased our efficiency by, for instance, having fewer scientists and having them be more specialized and focused on specific areas of need. We haven't decreased region support at all. Tami stated that in 2001, we noted a need for more geologists for the entire state. We had one for the South Puget area, and we are going to hire one for the east/southeast region, but have held off for now. Overall, we're more focused and efficient.

Tami noted that these numbers and figures have enlightened us too. We don't look at the big picture often, and wouldn't have thought we spent $21 million until we put together the various pieces. However, as Richard pointed out, we had to cut $20 million in timber just to pay for marbled murrelet surveys. It could be said we mowed it down to build it back up.

Implementation, Effectiveness, and Validation Monitoring was our next major section. This discussion correlates to slides 114-125 in the presentation.

Bruce presented a brief summary of our accomplishments in these areas and where we hope to go.

Bruce began by showing a slide describing what implementation, effectiveness, and validation monitoring are. The definitions were taken directly from the HCP.

Before 2001, monitoring was limited. Most program money went to marbled murrelet surveys. Beginning in 2001, administrative and funding changes occurred, which were key to allowing us to create a new focus. These changes also allowed us to add staff, creating a more centralized approach to implementation monitoring. We also created a more detailed, specific strategy for effectiveness and validation monitoring; added riparian effectiveness, spotted owl, sediment (which Ray will talk about later), and unstable slopes monitoring; and will begin marbled murrelet monitoring once the long-term strategy is complete.

Bruce next discussed implementation monitoring, which began as a region responsibility. Monitoring criteria were quite subjective. At the time, most monitoring consisted of a checklist with 2 questions: (1) Describe how the activity complied with the HCP?; and (2) If the activity was not compliant, what did you do to correct the situation? Bruce has

never seen one of these forms completed, and in all likelihood they were never filled out. Any reviews were subjective, and there were no annual monitoring reports. In 2001, the HCP monitoring section was created. We began centralized reviews using objective criteria, which were based on guidance given to the regions. Yearly monitoring reports are also now created.

In fiscal year (FY) 2001, the implementation monitoring team completed a pilot project. We studied 2 Planning Units and looked at management activities. We reviewed all HCP strategies done with these activities. In FY 2002, we did our first annual review. We reviewed all PUs and looked at HCP elements or strategies. For infrequently implemented strategies, we looked at 100% of the activities; for more common strategies with bigger samples, we randomly selected activities for review. With these reviews, we are learning as we go and collecting anecdotal evidence.

This year, the implementation monitoring team hopes to study leave trees and document whether or not we can count them all based on how they were left. We sent a questionnaire to all the regions asking them to tell us for all clearcuts in the last year whether or not we can differentiate the leave trees from buffers, RMZs, etc. For those sales where we can differentiate, we will create a random sample and do a 100% count at selected sales. We will also look at all infrequently implemented strategies (caves, talus slopes, cliffs, etc.) implemented in FY 2003. We are also considering looking at wetlands, both forested and not – the HCP requires protection of all wetlands that are 0.25 acres or larger.

Leave trees are complicated, in that you have to be able to differentiate them from riparian trees, buffers, and other trees. Bruce noted, however, that in the Northwest Region the survey response says that, of 27 sales with leave trees, in 25 we can distinguish and count all leave trees. Bruce expected a different response, thinking that it would be more like 90-95% where the region would say no, we couldn't differentiate. However, as we learned in a 2002 visit, the Northwest Region has begun implementing the use of different management tags for leave and buffer trees. These management tags allow for easy differentiation between leave trees and other trees. This could be a case for training foresters in using management tags effectively. Our questionnaire and monitoring will also help us to acknowledge the size and extent of the problem.

Bruce next discussed effectiveness monitoring, covering some of the accomplishments. These include strategic planning on monitoring designs; modeling the effects of management activities on spotted owls; writing draft monitoring plans for riparian and spotted owls; developing draft monitoring plans for roads and unstable slopes; and ongoing projects (many related to research and outlined in a report on the CD).

Steve asked about monitoring plans for riparian areas. He thought we hadn't done this, so was questioning how it was listed here.

Tami responded that Jeff Cedarholm has been unable to work due to illness, so the project is moving slowly. We do have a draft plan from 2001, which we gave the

Services. The Services didn't provide any feedback, so we're now reviewing the plan and incorporating new information as needed. We want to submit the plan to the Services and executives this year and move the draft to final status. We've hired Eric Knutsen on contract to review our riparian strategy.

This led Matt to inquire if monitoring for riparian areas will look different (with strategy changes). The answer was we'll see. We will look at monitoring and the strategy, comparing them and reconciling differences given new scientific information.

Mark asked what "modeling the effects of different management activities on spotted owls" was. Richard answered that it was research on economic and operational feasibility in relation to variable density thinning, looking at where we're thinning and how soon we expect habitat to develop.

Bruce next discussed future effectiveness monitoring projects. These projects include updating and completing riparian and owl monitoring plans; completing unstable slopes and roads monitoring plans; spotted owl habitat creation and restoration; monitoring sediment from roads; unstable slopes; and riparian monitoring.

Teodora noted that the spotted owl habitat creation and restoration in the South Puget Region will address dense stands within dispersal habitat that meet thresholds, but are not functional as dispersal habitat. The region is planning an experimental thinning sale and we will monitor the effectiveness. Based on the given guide of RD70, areas will be thinned if silviculturists and biologists say doing so is okay. In some blocks, we will thin above the RD70 threshold and monitor the results.

Bill noted that areas below RD 70 are easier to deal with.

Teodora said that the spotted owl project in the Pacific Cascade Region will be a pilot project that will follow the current draft effectiveness monitoring plan. This was going to be done in the OESF, but the thinning there was postponed, so it was moved to Pacific Cascade.

Ray then gave us an update on his project to monitor sediment from roads in the Pacific Cascade Region. The preliminary work is done, and he now has a strategic plan in outline form, which he walked us through. The introduction lists the drivers behind this project. The background explains the foundation. The HCP monitoring strategy is also explained. There is a section on adaptive management, which provides a feedback loop for both the short and long-term.

Drivers for this work include the ESA, Clean Water Act, and Sub-Senate Bill 5637 from 2001. Bill 5637 mandates that all state agencies with land must have monitoring programs in place by 2007 for water quality.

The foundation for the sediment work includes Forest Practices and the Board of Natural Resources.

Ray's literature search revealed that activities go in cycles – around the time new laws pass, there's lots of activity, which slowly tapers off until the next set of laws passes.

The HCP describes monitoring types. Ray focused on effectiveness and making sure his plan meets all requirements.

Ray also set up a decision tree for prioritizing WRIAs. It includes things like domestic water supplies, which can be impacted by sediment. Based on this, he set up 7 weirs for monitoring. He will be studying WAUs in the long-term and specific sales in the short-term.

Ray's measurements will be a combination of quantitative and qualitative data. This will include EPA /Ecology protocols and other regulations on water quality, the Clean Water Act, fish habitat, etc. He's also having discussions with the CMER group and federal and state agencies. His feedback loops will include short and long term data and analysis.

Steve questioned how Ray will distinguish road sediment from all other sediment. The answer was that we'll look at qualitative data from landslides (existing and new) and look at the relative contributions of landslides and roads. Wendy Gerstel is working with Ray on this.

Teodora then gave us a quick overview of spotted owl validation monitoring. She noted that it doesn't follow the existing draft plans, but is a baseline monitoring on species occupancy. She showed two charts that included all the data she could gather for the Eastside planning units and OESF. Some of the information evolved from the owl survey efforts in the late '80s and early '90s.

In Eastside planning units, monitoring efforts conducted by NCASI involve 18 owl centers on DNR lands. Almost all were all monitored every year, though some owls moved across ownership lines. The percentage of sites with reproducing pairs declined from 75% in 1995 to 11% in 2003. The surveys sampled fewer nests prior to 1995, and the percent of sites with a reproducing pair zigzagged more between "bad" and "good" years. Tami commented that she wouldn't expect owl numbers to spike all or none, but that's usually the case. Teodora responded that it is usually a good or bad year for all owls.

In the OESF, the number of survey sites decreased over time. Due to limited money and staff, the staff had to prioritize - for each survey site, if there were no detections for several years, no more surveys were done there. In 2002 and 2003 there was very limited survey effort. In 2001 they registered only one owl – a male – but that was based on a one day effort. In the future, we should fund more survey help (only Scott works on it now, and he's spread thin) and should continue to monitoring

Mark commented that the OESF results are similar to others: (1) vacated; (2) no response, due to presence of barred owls; (3) we only looked at occupied sites, not new

sites. Our OESF effort only tracks known owl sites until the owls disappear. We make no efforts to find new sites.

In the OESF, we know barred owls are a big factor. In Olympic National Park, many spotted owls are moving their nests up in elevation to avoid barred owls. In the south Cascades, northern spotted owls continue occupying nests if they have different habitat requirements from barred owls. Where the spotted and barred owls have similar habitat needs, the spotted owls move out.

Steve asked if owls successfully reproduce when they move up slope to higher elevations.

Teodora noted that the data on spotted owls moving following barred owl invasion is recent (2003), and she doesn't know if any studies on reproductive success have been done yet. Theoretically, reproduction would go down due to the suboptimal habitat – limited resources, shorter breeding seasons, and stress. Richard noted that no systematic barred owl surveys have been done; any observations have been an incidental part of northern spotted owl surveys. We need to ask the right question to get the data we want.

Mark observed that DNR lands should be easy to survey, due to the many roads and clearcuts.

Our presentation ended with discussion of the question: ***How can the Services and DNR maintain and strengthen implementation of the HCP?*** This discussion correlates to slides 127-128 in the presentation.

Tami began by noting that we'd never done a 5-year review before and asking if this was sufficient and covered the expected information. Mark remarked that this presentation provided good context to supplement the more detailed yearly reports. Together, they show that the HCP is on track and we're supplying the resources to make it work. We're learning to better define habitat and make riparian areas work. In general, we're on track and getting better, and the Services look forward to the 10-year review. Craig commented that this review covers only a short period, but shows that DNR supports and is proud of the HCP implementation. This is a good big picture overview.

Tami noted that we wanted to show big picture trends in this review as opposed to the annual reports, which provide more detailed information.

Bill observed that there aren't any real trends yet; this is the 1st 5 years of a 70-year plan.

Bill noted that we didn't discuss stand structure objectives like in the table on p. IV.180 of the HCP. The promised decadal projections by stand are not there. We have no before data to compare things to (a procedural problem). In addition, there's a potential biological problem in that some landscapes could decline, but still be okay, while others are poor to begin with and could get worse with harvest. One example is Rock Creek, where DNR holds the bag on thinning old forests. It would be scary to go forth without sufficient data, on e.g., whether species really need old forests. The 10-year projections

are still not here. Trusts assume an even flow and distribution. We need to look at 10-year projection things; we don't have data on where we are now.

Tami responded that we can get information through models and other things. For example, the Sustainable Harvest Calculation Model will drive harvests, but also covers many other things like habitat and showing if we've met projections. DNR will also hire a wildlife person to work on sustainable harvest calculations and stand structure, looking at how activities change stand structure.

Mark commented that he thought one annual report contained some stand structure data in tables, but that may have just been in a draft version, or it may have been in a different type of document.

Tami noted that the upshot is we are in a better position to discuss stand structures than we were when we wrote the HCP, but some areas are in a worse position regarding stand structure (e.g. Rock Creek, where there is or was a single spotted owl with nowhere to go).

Craig commented that this review had information he'd expect to see in our 10-year review. We should include information on our goals and what we're doing to get there, though at this point we're just at our goals and not sure how we will get there.

Matt commented that he'd like to see improvements in 5 years, but overall he's very pleased.

Bill noted that now would be a good time to bring Audubon, WEC, and similar organizations up to date. We could use much of this information, but throw in pictures of harvests and other activities. We've paved the way with relationship building, and need to further build relationships to help other groups educate themselves about DNR activities. For instance, members of the WEC were taken on a field trip around Forks to see various activities, and enjoyed it.

Craig suggested we add information on non-timber activities. A big picture overview, in relation to where we were in 1996 and/or marbled murrelets and northern spotted owls would be good.

Bruce agreed, but noted that we lack the system to collect and analyze the data and do a good job with this. We know internal problems exist, and we're working to raise awareness on issues like our need for good and regular information on non-timber activities.

Steve commented that it's better to fess up on areas where we lack data than to ignore them entirely in our presentation.

Tami noted that we don't track the number of trails put to bed, the number of campgrounds moved out of riparian areas, or other key data. DNR is working on improving this.

Craig commented that we generally met his expectations by clearly showing trends. He thinks we should build off the data and charts shown today when we do our next review.

In terms of successes, Craig thought we showed good stuff. We made a good demonstration of our accomplishments and ability to adapt strategies (e.g. the Klickitat spotted owl amendment). We also have a good working relationship with the Services.

Bruce noted that we've had good relationships for the last 3-4 years and have changed how we work together. Increasing our mutual trust goes a long way.

Peter commented that on the marbled murrelet issue, immediate trust was key and very much appreciated.

Simon noted that we have a good product and good foundation of research and monitoring to build on. Tami commented that we have lots of good things to show for the $21 million, but we expect even more the next five years.

Mark noted that he could have used the northern spotted owl information for a meeting in Portland several months ago. Oregon industry wants to delist the owl, and our data would have been helpful in the meeting.

The meeting ended with thank-yous all around at 2:50 PM.

Minutes prepared by Angela Cahill